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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,428	01/16/2004	Richard Hsiao	SJO9-2001-0046US2	5642

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INTELLECTUAL PROPERTY LAW OFFICES
1901 S. BASCOM AVENUE, SUITE 660
CAMPBELL, CA 95008

EXAMINER

TUGBANG, ANTHONY D

ART UNIT	PAPER NUMBER
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3729

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

ED

Office Action Summary	Application No.	Applicant(s)	
	10/758,428	HSIAO ET AL.	
	Examiner	Art Unit	
	A. Dexter Tugbang	3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-40 is/are pending in the application.
- 4a) Of the above claim(s) 31-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/16/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of the invention of Group I, Claims 25 through 30, in the reply filed on February 14, 2007 is acknowledged.
2. Claims 31 through 40 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on February 14, 2007.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: --A Method of Manufacturing a Magnetic Head Having a Short Pole Yoke Length--.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

5. Claims 25 through 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claim 25, it is unclear from the disclosure what is meant by the phrase of "fabricating a fill layer...at said ABS surface" (lines 7-8). Figures 18 through 20 of the applicant(s) drawings

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and the specification (pages 15 to 16) clearly discuss layer 228 as being the fill layer. Although element 92 is labeled as the ABS, the ABS has not yet been formed when fill layer 228 is formed. Element 92 is merely an imaginary line that shows where the ABS will be formed at a later time. But when the fill layer is formed, the ABS is not. So how is it possible for “portions of said fill layer are disposed at said ABS surface”, when at the time the fill layer is formed, the ABS is not. The above phrase is misleading and confusing, rendering the claim as being vague and indefinite.

In Claim 30, the phrase of “said etch stop layer” (lines 1-2) lacks positive antecedent basis.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 25 through 27, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Santini 6,172,848 in view of Sasaki 6,195,872.

Santini discloses a method for fabricating a magnetic head comprising: fabricating a write head above substrate base S1 including: fabricating a first magnetic pole (e.g. 610, 612 in Figs. 21C and 21D); fabricating an induction coil (e.g. 628); fabricating an electrical insulating layer (e.g. 630 in Fig. 21W) above the first magnetic pole such that no portion of the electrical insulation layer is disposed at an ABS; fabricating a fill layer (e.g. 642) around the electrical

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insulation layer such that portions of the fill layer are disposed at the ABS; and fabricating a second magnetic pole (e.g. 640 in Fig. 21AA) above the induction coil.

Regarding Claim(s) 26, Santini further teaches that the electrical insulation layer is composed of a substance of SiO_2 (e.g. silicon dioxide, col. 12, lines 7-9).

Regarding Claim(s) 27, 29 and 30, Santini shows in one embodiment that the induction coil is a single layer induction coil (Fig. 15 or Fig. 21U), and that the fill layer (e.g. 642) is made of Al_2O_3 (e.g. alumina, col. 15, lines 49-50). Layer 626 or 340 is also made of Al_2O_3 (e.g. alumina) and can broadly be read as an "etch stop layer" since the claims require no etching, or no etching steps.

Santini teaches substantially all of the limitations of the claimed manufacturing method except that the induction coil is fabricated in the insulating layer (as required in Claim 25, line 9).

Sasaki shows a coil forming process (in Figs. 13A to 15A) where an electrically insulating layer (e.g. 37) is fabricated and then subsequently, an induction coil (e.g. 40) is formed within insulating layer. Both Sasaki and Santini form art recognized equivalent induction coils, which have the same purpose and same function of operation within each of their magnetic heads.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Santini by utilizing the coil forming process of Sasaki, which is to fabricate the induction coil within the electrically insulating layer, to form art recognized equivalent induction coils, which have the very same purpose and function within each magnetic head.

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8. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Santini in view of Sasaki, as applied to Claim 25 above, and further in view of Sato 2002/0176206.

Santini, as modified by Sasaki, discloses the claimed manufacturing method as relied upon above in Claim 25, further including that the induction coil can be made up of a multiple induction coil (e.g. 417, 418 in Fig. 17), and that each induction coil has a separate insulation layer (e.g. 426, 428). Sasaki shows that one induction coil (e.g. 417) has a separate insulation layer (e.g. 426) and that another induction coil (e.g. 418) also has another separate insulation layer (e.g. 428), with each of the insulation layers having a portion that is not formed at the ABS. The electrical insulation layer (e.g. 428) is formed within the fill layer (e.g. overcoat layer). However, Santini does not teach that the other of the electrical insulation layers (e.g. 426) is formed within a separate fill layer.

Sato shows that a fill layer (e.g. 18 in Fig. 6) disposed at the ABS and can be fabricated to enable subsequent patterning of the electrical insulation layer (e.g. 15 in Fig. 7), where the insulation layer is formed within the fill layer (Fig. 8).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Santini, by adding a separate fill layer to the first (or bottom) pole, as taught by Sato, to positively enable the insulating layer to be formed within the fill layer.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

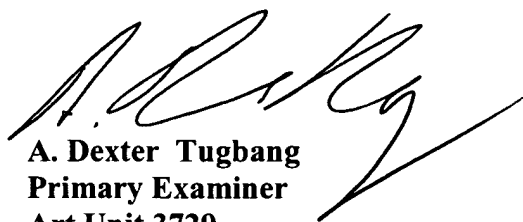
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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Dexter Tugbang whose telephone number is 571-272-4570.

The examiner can normally be reached on Monday - Friday 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



A. Dexter Tugbang
Primary Examiner
Art Unit 3729

April 16, 2007